ART. II. *Observations on the Medicinal Properties of the Veratrum Viride.* By CHARLES OSGOOD, M. D. of Providence, Rhode Island.

THE following remarks on the Veratrum viride or green hellebore, are submitted to the profession with the hope of turning their attention to an article of medicine hitherto but little known. Some of the popular names of this plant are American hellebore, swamp hellebore, Indian poke, Indian Uncas, poke weed, bear weed, itch weed, tickle weed. Beside these, there are others of a more local character, and of those already enumerated, there are several which are equally applied to other plants. It is indigenous—found in almost every part of the United States, the product of swamps and wet meadows—top annual, and root perennial. It appears early in the spring, and is one of the first plants which attract our notice at the commencement of returning vegetation. It is often found associated with the Ictodes fœtidus, particularly on the margin of small streams in low boggy lands. Both require the same soil, and grow with equal luxuriance. Its flowering season in the northern and middle states is in June; in the southern as early as May. This plant in its botanical characters is closely allied to the Veratrum album or white hellebore, a distinguished medicinal plant found in most countries of Europe. Its botanical description is fully given in most of our works upon that subject. The *root*, the part employed in medicine, is bulbous, the upper portion tunicated like an onion, the lower half solid, sending forth a large number of strong, whitish radicles. This root has a strong acrimonious taste, leaving its pungency in the mouth and fauces a considerable time after being masticated. The decoction, though intensely bitter, is less acrimonious than the root in substance. The proper time for collecting this, as well as most other medicinal roots, is in the fall of the year, after the decay of the top. Its medicinal properties are then most active, and appear to be the most permanent. When kept *over* more than one season, its active properties become impaired; it should therefore be gathered every year, and preserved in a dry place.

The early history of this plant is involved in much obscurity. Our accounts of its medicinal use by the aborigines are altogether vague and unsatisfactory. It appears to have been known to them rather as a poison than a medicine. Its use in the election of their chiefs, is noticed by JOSELIN, an early visiter to this country, who calls it "white hellebore." According to this writer, that individual whose stomach was least susceptible to its deleterious effects, was regarded as the "strongest of the party, and entitled to command the rest." It has been long and extensively used for the destruction of vermin and birds. Among many of the farmers of New England, it still continues a common practice to protect their corn fields from the havoc of birds, by scattering the ground with kernels of corn saturated in a strong infusion of the root; this is done just as the corn is springing from the ground, it being then most liable to depredations from the feathered tribe. With many it is customary to subject their seed corn to the same process before planting. A short time after partaking of corn thus prepared, muscular action becomes so much paralyzed as to prevent either flying or walking, and in this torpid state they are readily taken and killed. Unless caught while thus narcotized, many of them recover and fly away.

The analogy in external appearance between this species and the Veratrum album of Europe, was the circumstance which first led to the investigation of its medicinal properties. But notwithstanding this analogy in botanical affinities, there is a decided difference in their medicinal operations—the album being hydragogue cathartic; whereas, the viride has not the slightest laxative effect. So far as I am acquainted, this plant has never been the subject of a thorough analysis. It is commonly said to contain the proximate active principle *veratrine* as the seat of its medicinal properties. This opinion, however, seems to be entirely gratuitous, being drawn from its analogy in external appearance with the European species, rather than from actual investigation. If we consult analogy in medicinal properties, instead of external appearance, our conclusions will be more rationally founded. This is, indeed, the only analogy that can give much weight to an opinion upon this point; and so far as this goes, is in decided opposition to the hypothesis, that the active principle of this species is the same as of the European—that, as has been before observed, being hydragogue cathartic, while this possesses no cathartic powers. It has been suggested, that this diversity in medicinal effects might be explained on the supposition that veratrine, though the proximate active principle did not exist in the plant in the form of a bi-gallate, as in the European species—the diversity in medicinal properties warranting the belief that the salt was different, though the base might be the same. This opinion, though at first view plausible, is neither supported by analogy, nor in accordance with the known laws of vegetable chemistry. Although solubility and activity are often affected by a change of acid simply, I have no knowledge that vegetable chemistry furnishes us with any instance of a change in the medicinal properties of the proximate active principles of a plant, by varying the acid with which the proximate principles or base may be combined. Among many instances which may be adduced where this integrity in medicinal effect is preserved in spite of a change of acid, the sulphate and acetate of quinine, sulphate and tartrate of sanguinarine, sulphate and acetate of morphine, are familiar examples. I have been thus particular on this point, as the general impression of identity in active principle with the European species has greatly interfered with the investigation this plant deserves, and would otherwise have received.

Since the above was written, I have endeavoured to test the correctness of my conclusions by chemical analysis. Although my experiments were not sufficiently extensive to accomplish this object, still I would briefly detail the process adopted. The preparation from which I attempted to obtain the proximate active principle was the infusion, prepared by adding boiling water to the finely bruised root, and allowing it to macerate twenty-four hours, the quantity of root being such as to saturate the water. After filtering this infusion, a precipitate of a dull white colour was thrown down by ammonia. This precipitate, after being repeatedly washed, was boiled for about five minutes in alcohol, with a small quantity of animal charcoal, and filtered while hot. On cooling, a small portion was again thrown down, the alcohol still holding the greater part in solution, which was afterwards obtained by evaporation. This substance, after being thus subjected to the action of alcohol and animal charcoal, was of a clear white colour, pulverulent, inodorous, and very acrid, producing a peculiar stinging sensation when taken upon the tongue. Whether this was the principle in which the medicinal properties of the plant reside, is a point I am unable to determine, being deprived of an opportunity for extending my investigations, by inadvertently losing the greater part of the specimen obtained. Not being aware of its extreme volatility, the filter containing it was placed for the purpose of drying in a temperature which appeared to be but little higher than that of the body, at the extent I should think it could not have exceeded 120° Fahr. At this temperature most of it volatilized, and was lost.

Since the above experiments, I have had no opportunity for repeating the process.* The *medicinal operations* of this plant have been variously estimated. In the United States Dispensatory by Drs.

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* It is my intention to do this at some future time, and if successful, will forward the result.

Wood and Bache, it is represented as agreeing in its effects with Veratrum album, which seems to be the most common opinion. From the very limited extent to which it has been used as a medicine, but few facts relative to its medicinal properties have come before the profession. Among the causes of this limited use, the common prejudice against the medicinal products of our own country has doubtless had an influence—a prejudice which, in this instance, has the character of inconsistency, so far as prevails the impression of its identity with the European species. Our own medicinal articles can never receive a due share of attention, so long as they have to encounter *our own* prepossessions against them, and in favour of those of a trans-atlantic origin. Professor Tully,* of the medical department of Yale College, (whose extensive use of this article well qualifies him to judge of its medicinal properties, and justly to appreciate its value as a remedial agent,) is of the opinion, that as an article of medicine, it ought entirely to supercede, not only the other species of the genus, but also the Colchicum autumnale. On many accounts it is certainly far less objectionable. In its general deobstruent effects it appears to be similar to its congener, the Veratrum album, as well as to the colchicum. But as possessing fewer of their objectionable features, and being equally efficient as a medicine, it should have the precedence in practice; it is not liable to the same uncertainty in its operation; it does not produce uncontrollable purging in one case in doses which have little or no effect in another; it does not leave the alvine canal in an irritable condition. On the contrary, it operates with as much certainty as any article in the materia medica; is never cathartic, and always leaves the bowels in a good condition. It requires but a moderate degree of attention to render the operation of the Veratrum viride perfectly safe. It should, therefore, on this account, take the precedence of an article possessing no superiority in medicinal powers, whose operation is not within the controul of vigilance and caution.

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* An apology is due Dr. Tully for the liberty I have taken in quoting his authority. Many of the leading principles which form the basis of this article, were derived from his public instruction, and while acknowledging myself responsible for its errors, it is but justice to say, that much of whatever merit it may possess, is the result of his discriminating research and extensive observation. Few men in our own country have more assiduously studied the character of our indigenous articles of medicine, or prosecuted this study with greater success. The publication of his lectures on the materia medica would be a boon to the profession, which, it is hoped may, ere long, be realized.

I am aware there is some diversity of opinion respecting the safety of the colchicum, as well as of the Veratrum album. It is occasionally employed for a length of time without manifesting any distressing or dangerous symptoms. But the confidence thus inspired, is too often interrupted by the occurrence of some unfortunate case. I have met with but few of my professional brethren who, after an extensive use of this article, were not led to consider it unsafe, as occasionally accumulating upon the system, and producing hypercatharsis and prostration, which no medication could relieve.

There is still another reason why the Veratrum viride is preferable—being indigenous, it can always be obtained in its recent state, and therefore of uniform activity, while the European species being often collected at improper seasons, and imported in the form of powder, is liable to much variation in strength, and is occasionally inert. Professor Tully, whose authority I have before quoted, thus enumerates the operative effects of this plant. 1st. Deobstruent or alterative. 2d. Acrid narcotic. 3d. Emetic. 4th. Epispastic. 5th. Errhine. In doses as large as the stomach will bear without nausea, its deobstruent operation is manifested by a gradual and general change in the secernent and absorbent system, correcting vitiated secretions, and promoting those which are deficient. As secondary or subordinate parts of its deobstruent operation, it is *resolvent*, producing resolution of inflammations by internal use; *antipsoraic*, having the power of removing certain cutaneous affections; *cholegogue*, producing an increase in the biliary secretion; *expectorant*, promoting the excretion of fluids from the bronchial membrane; *diuretic*, causing a moderate increase in the secretion of urine; *discutient*, possessing the power of dispersing tumours from local application; and finally, *sialogogue*, producing a decided increase in the secretion of the salivary glands, both from topical and internal use. This latter operation is much more prominent in some constitutions than others. It is usually slight, and of little consequence.* It does not appear to be directly *diaphoretic*, though diaphoresis may be produced by virtue of its emetic operation; the secretion of the skin being more of a clammy, adhesive nature than is usually caused by the simple emetics. I am inclined to think that it is *emmenagogue*, but have not sufficiently attended to this operation to arrive at any very satisfactory conclusions. Some of my medical friends, who have made considerable use of this article, are of the opinion that it possesses emmenagogue properties. Further observation is still requisite fully to establish its effect upon this secretion. Of the different operative effects of this medicine, its deobstruent or alterative is the most important. To obtain this operation fully, the nearer the strength of the circulating system approaches a healthy standard the better. If there be phlogistic action, it is necessary to precede its use by bleeding or refrigerants; if debility, this should be removed by tonics, and a supporting regimen. Its narcotic effects are very prominent, and when the system is brought fully under its influence, are manifested by faintness, somnolency, dimness of sight, dilatation of the pupils, vertigo, head-ache, impaired muscular action, hiccough, cold clammy sweat, small, unfrequent and compressible pulse. Its influence upon the circulating system is very decided. By the exhibition of full doses, I have frequently known the pulse, when ranging from 75 to 80 in the minute, reduced to 35 or 40 in the course of a few hours. Its effect upon the strength of the pulse is as great as upon its frequency. For counteracting its ultimate narcotic effects when carried to an undue extent, I have invariably succeeded with small doses of laudanum and brandy, often repeated; camphor and ammonia are valuable adjuvants, but far inferior to opium and brandy. It is usually emetic in doses of from four to six grains of the substance; one to two fluid drachms of the tincture, or one to two grains of the extract, requiring a greater length of time to produce vomiting than most other emetics, excepting those of the deobstruent kind. The larger the dose, the more speedily is the vomiting produced. For the mere purposes of an emetic, however, this article can never be advantageously employed, on account of its acrid narcotic effects, excepting perhaps in those cases which may indicate a narcotic operation in conjunction with the emetic. As an epispastic, (used as a generic term, including the various grades of irritation, vesication, rubefaction, &c.) it is sometimes employed with advantage, though for this operation it is comparatively of minor importance; other articles being equally efficient and more generally at hand. Its errhine powers, (if this be an operation distinct from the latter, and I am inclined to think it is,) are produced either by the fine powder of the root, or the extract. When snuffled into the nose, it produces long continued and sometimes violent sternutation. As illustrative both of the medicinal powers of this article, and its activity in the form of extract, I will briefly detail its effects, as produced on myself and another individual, a member of the profession, whose experiments were at my request, and in my presence.*

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* Dr. Peabody, of Norwich, Connecticut, informs me, that in one instance, he found the continued internal use of this medicine produce as powerful salivation as often witnessed from the use of mercury. This, however, passed off directly with the discontinuance of the medicine, leaving no unpleasant effects.

At 12 o'clock, M. I took two grains of the finely pulverized extract. At 1 began to experience a slight sense of uneasiness at the stomach, but not amounting to nausea. This uneasiness at the stomach, though so slight as to be attended with very little inconvenience, continued till about half past 1, when vomiting commenced. The contents of the stomach were thrown off without nausea, but with a sense of rising in the œsophagus, which perhaps might be compared to the rumination of animals. Judging from my sensations at the time, should suppose the muscular fibres of the stomach contracted gradually and steadily upon its contents, until they were expelled, the diaphragm and abdominal muscles remaining entirely inactive. After the vomiting had continued a considerable length of time, it appeared to be more the effect of spasmodic action, and was attended with chills and coldness of the whole body, but moisture of the skin. At the expiration of about an hour vomiting ceased, and was followed by dimness of sight, dilatation of the pupils, vertigo, faintness and somnolency, pulse at the wrist 40 in the minute, and scarcely perceptible. I then took 25 ♏ laudanum, and fell asleep. After the lapse of an hour, awoke with a continuance of the same symptoms, together with a dull pain in the epigastrium, and immediately repeated the laudanum. But finding no relief, the dimness of sight increasing, and on motion of the body, or turning the head, amounting almost to blindness, a sensation of stiffness in the voluntary muscles supervening, particularly the temporal and extensors of the head, together with considerable general prostration, the dose of laudanum was doubled. This produced a partial abatement of the symptoms, and after another similar interval was repeated, with half a gill of brandy, which soon effected entire relief. In connexion with these symptoms, it should be observed that I am unusually susceptible to the operation both of narcotics and emetics.

The individual to whom I have alluded as also taking this extract, may perhaps be considered as at the other extreme in the range of susceptibility. He commenced at 9 o'clock in the evening, with two grains. In ten or fifteen minutes, slight uneasiness at the stomach; at half past 9 took four grains more; at 10, a sensation of something like a ball rising in the œsophagus, which seemed to extend up as far as the top of the sternum, as if propelled by a gradual tonic contraction of the stomach. At quarter past 10, vomiting commenced. This was attended with very little inconvenience at first, but after continuing a short time became more severe, the ejections consisting principally of bile; together with the vomiting, there was much ineffectual retching; almost constant hiccough; chilliness; dimness of sight; vertigo; inability to controul the voluntary muscles; distress at the stomach; pulse small and creeping, and 34 in a minute; the ordinary frequency ranging from 56 to 58. As these symptoms were becoming more aggravated, he took ʒss. of laudanum, and went to bed scarcely able to walk. In ten or fifteen minutes the laudanum was repeated, which soon produced sleep. In the morning was apparently in better health than he had been for several months. At 7 the same morning, three grains more were taken; at 9 complained of a confused sensation in the head, and almost an entire loss of power of the gastrocnemii muscles. At 12 M. three grains more were taken, and at half past 12, all the muscles of the forearm were affected in the same manner. At 1 vomiting; pulse 40, and other symptoms essentially the same as the day before, excepting a less degree of chilliness. At half past 2, took 45 ♏ laudanum, and in the course of two hours the effects of the medicine entirely subsided, excepting the inability of using the gastrocnemii muscles. At 11 in the evening two grains more were taken, which, in about three quarters of an hour, produced vomiting like the other cases, but without any appreciable narcotic effect.

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* These experiments with the extract were made immediately after this preparation was formed, and before it had been at all used as a medicine. Its effects were noted down at the time, the substance of which is here given.

The freedom with which the extract was taken by this individual, was not in conformity with my request, as I had previously tested the effects of two grains upon myself. My wishes, however, were overruled in the confidence he had in his own powers of withstanding the effects of narcotic agents. He afterwards made experiments with this article in smaller doses, and at regular intervals. Doses of half a grain once in three hours, after being repeated three or four times, were followed by an uneasiness at the stomach, with the same paralyzed condition of the extensors of the feet. The dose was then diminished to a quarter of a grain, and continued three days at the same intervals. With these doses, muscular action was not so constantly interrupted, this effect occurring only after considerable exercise, as walking or jumping. By continuing this article three or four days in doses of one-eighth of a grain, once in three hours, it was followed by moderate diuresis. The same effect was also noticed in two other individuals, who experimented with it at the same time. This operation, however, does not appear sufficiently prominent for the treatment of hydropic diseases. In no single instance in the experiments with this article upon myself and others, did it operate in the least as a cathartic; nor in my practice since, have I ever discovered in it any disposition to pass off by the bowels. Dr. John Ware, of Boston, who experimented with it in the form of powder of the root, states that he administered it in thirty cases, and "in no instance was it very clear that purging was produced."*

The pharmaceutic preparations of this plant are tincture, wine, extract, ointment, infusion, decoction and powder of the root. Of these, the tincture, wine, extract and ointment, are the most eligible forms, and for common medicinal purposes appear to be all that are requisite.

The tincture is prepared by adding the recent bruised root, ℥vj. to diluted alcohol, Oj. I was formerly in the habit of using ℥viij. to the pint, but this appears to be more than is necessary for saturation; medium dose from f. ʒss. to f. ʒj. For the wine, recent bruised root, ℥vj.; white wine, ℥xiv.; officinal alcohol, ℥ij. The alcohol is necessary to prevent the preparation from becoming sour in warm weather; dose the same as of the tincture. In reference to the relative value of these two preparations, I do not know that any thing can be said in favour of the wine, which would not with equal truth apply to the tincture. In medicinal efficacy, there appears to be no appreciable difference. The extract is made simply by expressing the juice of the recent root, and inspissating in the sun. Thus prepared, it is hard and dry, of a grayish colour, and capable of being reduced to an impalpable powder. It requires a considerable quantity of the root to produce much of the extract. To obtain the juice it must be strongly bruised and subjected to strong pressure.

I was first induced to make this preparation for the purpose of having a form which would embody the greatest activity in the least bulk, and which would retain this activity a longer time than the crude root. In these particulars my expectations have been fully realized. Its activity is sufficiently attested in the experiments already detailed. Medium dose from one-fourth to one-half grain. I have rarely been able to exceed one-half of a grain, when repeated at intervals of three or four hours, without producing more or less narcosis and disturbance of the stomach. For what length of time this extract when excluded from the air will fully retain its medicinal activity I am unable to say; I now have in my possession a part of the first parcel which I prepared, and although about three years old, does not appear to have lost any of its strength. It has been kept excluded from the air, though not from the light. I am inclined to think this extract will to a considerable extent supersede the other preparations. Its activity in this form, and the facility with which it may be administered, certainly favour this supposition. The extract by decoction is an inferior article, possessing but little medicinal power. Heat appears to injure it very materially. The ointment is the only preparation which has been made officinal in the Pharmacopœia of the United States. The following are its directions. "Take American hellebore in powder, ℥ij.; oil of lemons, 20 ♏; lard, ℥viij. and mix them." For this purpose I have found the pulverized extract far preferable to the powder of the root. The following is the formula I have usually adopted. ℞. Extract in fine powder, ʒj.; oil of lemons, 3 ♏; simple cerate, ℥j.; to be thoroughly incorporated without heat. Cerate is preferable to lard, as the latter is melted by the warmth of the body. The greater activity and fineness of the powder of the extract make it more eligible than the powder of the root.

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* Vide Dr. Bigelow's American Medical Botany, Vol. II. Part 2d.

It is unnecessary fully to enter upon a therapeutic application of this article, or to enumerate all the diseases in which it has been employed. Among those, in which it stands foremost in our list of remedial agents, are the arthritic inflammations. In this class of diseases, it should be given in such doses as at first fall short of producing disturbance of the stomach, as one-third of a grain of the extract, or ʒss. of the tincture, regularly repeated every three or four hours, and gradually increasing to the extent of producing narcosis or vomiting on the one hand, or resolution of the disease on the other. To ensure its best effects, opium in moderate quantities should be conjoined. A combination of the wine, with the tincture of opium, in the proportion of three parts of the former to one of the latter, cannot it is said be distinguished in its operation from the celebrated *Eau medicinale*, excepting by the catharsis which sometimes ensues from the use of the latter. This combination is much more efficient than the wine or tincture alone, producing less disturbance of the stomach, and can be employed in larger quantities without inconvenience from its narcotic effects. In *gout*, of the regular kind, this article manifests its best powers. It is the opinion of Dr. Tully that with proper management it will cure a majority of cases. In proves most successful in those constitutions which are not impaired by habits of gluttony and intemperance, at the same time it is much better adapted to broken down constitutions, than the colchicum or veratrum album, on account of the exhaustions these articles are liable to produce. If used in efficient doses, and perseveringly continued several days, there are few cases but will be decidedly benefited, if not radically cured. It appears to be as well adapted to rheumatism as gout. In the treatment of that disease, both in its acute and chronic form, the article is well worthy the attention of the profession. There is no remedy in the materia medica within my knowledge, with the exception perhaps of the actæa racemosa, to which *acute rheumatism* more easily yields. In this disease it should also be combined with opium, for the purpose of relieving pain, and qualifying its effect upon the stomach. The amount of opium conjoined, should be graduated in some measure by the severity of the pain. Thus qualified, it should be administered at regular and short intervals, generally as often as every three hours, in such doses as at first fall short of producing nausea, and gradually increased. Thus administered, the system is kept under its steady and uniform influence. If the doses fall short of producing its specific effects upon the stomach and brain, or if administered so irregularly that the effects of one dose pass off before another is given, but little will be accomplished. In a common case of acute rheumatism, a cathartic of calomel should first be premised, unless the bowels are in a relaxed condition, or some other circumstance exists to contravene this practice. If the stomach is not in an irritable state, it is then best to commence with f. ʒj. of the tincture, in the combination recommended in gout, each dose to be increased 5 or 10 ♏, as the case may require, till some effect is produced. All local applications should be avoided, as in no way promoting the operation of internal means, and only liable to draw the disease from one part to another, where perhaps its presence is still more to be dreaded. The more acute the disease, the more erratic in its character, and the earlier in its progress, the more speedily does it yield to this course of medication. In *chronic rheumatism*, unattended with inflammation and swelling of the joints, it is less successful than in the acute, from its being a less controllable form of the disease. In this variety, however, it is probably more efficient than any other remedy of equal safety which we possess. It is often necessary to continue its use several days before much benefit is perceived. It is not very material whether it is exhibited in the form of tincture or extract. In acute rheumatism, where greater promptness is requisite, and small variations of dose often desirable, the tincture is most eligible; but in the chronic variety I have generally used the extract for the purpose of exhibiting in the form of pill, which in medium doses is not so liable to produce disturbance of the stomach. The following formula for a common rheumatic pill appears to be well adapted to a majority of cases. ℞. Ext. ver. vir.

grs. x.; opii, grs. v.; sapon. venet. grs. xv.; muc. gum. Arabic, q. s. M. To be divided into thirty pills. Dose, one pill to be repeated every three or four hours, as the urgency of the symptoms may require. After two or three repetitions, there is usually some disturbance of the stomach, and occasionally slight narcosis. In metastasis of rheumatism to internal organs, this remedy is equally valuable. In cases of transfer to the brain from external applications or other causes, it has been found highly beneficial, not only from its resolvent powers in arthritic inflammation, but from its narcotic properties in reducing the frequency and strength of the pulse. In a case of this kind which came within my observation about two years since, the pulse in a few hours was reduced in frequency from ninety-five to forty in a minute, with manifest relief of the existing delirium. I think it will also be found a valuable remedy in arthritic inflammation of the heart. So far as my knowledge of its use in this affection extends the result has been favourable.

I now have a case of this kind in a lady, thirty-five years of age, of arthritic diathesis, which arose from the translation of a chronic rheumatic affection of the right shoulder and arm, leaving this part comparatively well. In this case the tincture, administered in drachm doses, qualified by one-sixth laudanum, and repeated every three hours, has afforded prompt and decided relief. At the expiration of a few hours the disease began to yield, and as the existing nausea and narcosis then required some reduction in the medicine, it was afterwards repeated in smaller doses, and at intervals of four hours. Under this treatment the pulse became regular, and was reduced in frequency from ninety to fifty-five in the minute, with a corresponding diminution in its strength; the extreme anxiety and oppression in the præcordial region gradually abated, together with a general improvement in all the symptoms. At the expiration of two days, relief was almost entire. It is now about a week since this attack, and with the exception of occasional slight oppression in the region of the heart, there has been no recurrence of the disease. *Pneumonia*, with the exception of low typhoid cases, is a disease in which it has been advantageously employed. It appears to be best adapted to the variety *notha*, and has often succeeded in breaking up the disease when acute and fully formed. I have also used it in the variety *vera* with decided benefit. Most cases require a small quantity of opium in combination, and when administered with the view of breaking up the disease, it should be given in full doses, and repeated at short intervals. It is also one of our most valuable remedies for arresting the cough, which is sometimes a protracted sequel of this disease, and in consequence of the irritable condition in which severe cases are liable to leave the lungs. Protracted cases of *common and epidemic catarrh*, where other means have failed, not unfrequently yield to this article. I have occasionally combined the tincture of Sanguinaria canadensis with increased effect. These two remedies, with the camphorated tincture of opium in equal parts form a valuable compound, and may be given in doses of 50 or 60 ♏ repeated at intervals of four or five hours. When the disease from neglect or other cause assumes the form of membranous phthisis, much less is to be expected from its use. In cases of this kind the actæa racemosa is a valuable adjuvant, and should enter largely into the combination. It has been successfully employed in simple *idiopathic cough*, and seems to be well adapted to the kind, or irritation on which this cough depends. I have often used it in this affection with entire relief, in doses short of the nauseating point, repeated four or five times in the twenty-four hours. In many cases much is gained by a judicious combination with other deobstruent narcotics, as actæa, sanguinaria, digitalis. In such combinations, there is usually less disturbance of the stomach, and less inconvenience from ultimate narcosis.

There is much testimony in favour of this article in the disease commonly called *asthma*, (Dyspnœa exacerbans of Good.) Dr. Tully thinks it a valuable remedy, and one which will often break up the disease. It should be given in drachm doses of the tincture, as the paroxysms are coming on and continued at short intervals. The paroxysms is generally relieved by the first dose, which should be conjoined with ʒss. of the tincture of opium. In *dysentery* it is also recommended by Dr. Tully. The non-malignant cases of this disease are those in which it is more particularly indicated. In cases of this kind, Dr. T. thinks its operation is analogous to that of mercury in removing the specific inflammation of the mucous membrane of the bowels, on which the existence of the disease depends.

Dyspepsia in some of its forms is relieved by this remedy. It is principally valuable by virtue of its chologogue powers, and is consequently best adapted to those cases attended with a deficient or vitiated secretion of bile. Its effect upon the mind in cases of depression of spirits, so frequently a symptom of the disease, is sometimes very prominent. I have often observed this effect after the system has been for a time under its influence, and the narcosis allowed to subside.

The full extent of its *discutient* powers are yet to be learned by further experience. In several cases of syphilitic enlargement of the inguinal glands, in which the common mercurial ointment produced but a partial reduction of the swelling, I have speedily succeeded in completing the cure with this remedy. The cerate prepared as before directed, is best adapted to this purpose. An an *antipsoraic*, it has been used in many cutaneous affections, with much authority in its favour. Of its value in this class of diseases I can say nothing from my own experience. Salt rheum, (var. of ecpyesis impetigo of Good,) scalled head, (E. porrigo,) itch, (E. scabies,) are the forms of cutaneous diseases in which it has been more particularly recommended.

March, 1835.

Art. III. *Reports of Cases Treated in the Surgical Wards of the Pennsylvania Hospital.* By T. S. Kirkbride, M. D. Late Resident Physician.

Case I. *Injury of the Head—Insensibility—Convulsions—Hæmorrhage from the Ears—Convulsive Motion of the Ball of the Eye—Double Vision—Entire Deafness.*—John H. æt. 27, hack driver, of rather intemperate habits, but generally enjoying good health, was brought to the hospital on the 6th of January, 1835, at 8, P. M. He was reported to have been sitting on the box of his carriage, and to have fallen from it without any obvious cause, about one hour before.

He had continued perfectly insensible after the accident, and when admitted presented the following symptoms:—Skin cool; pulse 88, feeble, irregular; respiration 26, slightly stertorous; pupils nearly natural, little sensibility to light; he moves his limbs when strong irritants are applied to them, and appears annoyed when his arms or legs are moved; he has not spoken, or opened his eyes since the accident. Blood has been discharged from his ears and nose; no wound of the scalp, or any fissure or depression discovered in the skull. Stimulating enemata. Sinapisms to the extremities; heat and frictions.

January 7th.—Morning. Reäction came on very slowly. At midnight he vomited his last dinner, consisting of undigested meat and vegetables, and has vomited once since. At 4, A. M. he asked for drink; he was restless, and roused with difficulty, and although he now asks a few questions, no replies can be obtained from him; his skin is hot; pulse 88, some strength; face flushed; pupils natural, conjunctiva slightly injected. V. S. ℥xviij. ℞. Calomel, gr. x. statim. *Evening.* After the bleeding his pulse fell to 70, and be-